

# DR AGHA MUSHTAQUE AHMED



**Asst. Professor (Entomology) & Deputy Director (Advance Studies)**  
**Faculty of Crop Protection, Sindh Agriculture University (SAU) Tando Jam**  
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**DOB: 8-2-1980**

**Interests:** *Biological Control, Integrated Pest management, Invasive pest species, Insect Behavior, Apiculture, Farmers Capacity building, Farmer field days and trainings & workshops organizing.*

## EDUCATION

- **Doctor of Philosophy (PhD)** in Entomology from Universiti Putra Malaysia (UPM) during 2016  
**Research title:** Mating behavior of brown planthopper *N. lugens* (Stål) a serious pest of rice in Malaysia under project associated with UPM and Long Research Grant Scheme (LRGS) government of Malaysia.
- **M.A (Economics)** University of Sindh Jamshoro, Sindh Pakistan 2009
- **Master of Science (M.Sc. Agri. Hons.)** in Entomology from SAU Tando Jam Pakistan during 2005  
**Research title:** Effects of food on life table parameters of seven spotted ladybird beetle *Coccinella septempunctata* under laboratory conditions.
- **Bachelor of Science (B.Sc. Agri. Hons.)** in Entomology from SAU Tando Jam, Pakistan during 2003

## WORK EXPERIENCE

- **TEACHING & RESEARCH**  
**Assistant Professor (BPS-19)** in the Department of Entomology, FCPT, SAU Tando Jam, Pakistan from 17<sup>th</sup> Feb 2017  
Teaching and Research  
**Worked as a Lecturer on Ad hoc** (BPS-18) in the Department of Entomology, FCPT, SAU Tando Jam from 1<sup>st</sup> Nov to 16<sup>th</sup> Feb 2017  
Teaching and Research
- **ADMINISTRATIVE POSTS**  
**Deputy Director** at Directorate of Advance Studies and Research (DASAR) SAU Tando Jam
  - Assist to Director DASAR in making and implementation of post graduate programs policies in accordance with HEC Pak.
  - Technical evaluation and persuasion of post graduate dissertation
  - Conduct PhD defense seminar and Board of Studies and Research (BASAR) meetings
  - Student counseling for their routine matters regarding post graduate studies like admission, exams, penalties, extension etc.
  - Checking compliance report
  - Arrange seminars and workshops for students.

## CONSULTANT CUM TRAINER

- 1) @ **Sindh Agriculture University Tando Jam (Department of Entomology)**  
Objectives: To provide fundamental information and skills for beekeeping and its tools in Sindh province 2022 and 2023.  
One day training cum workshop, having more than 100 students, researchers from different universities and institutes of Sindh.
- 2) @ **Islamic Relief Pakistan (IRP) Coastal area Karachi**  
Objectives: To develop a tailored training program focusing on training objectives, design training modules, materials and resources to effectively deliver the content in order to enhance the knowledge and skill of local community people/farmers.

- a) Two weeks training program of 130 community farmers on ‘**Fodder Management, Silage Making, and Urea Treatment**’ under Climate Sensitive Livelihood Modelling (CSLM) project 2023
- b) Two weeks trainings of 130 farmers on ‘**Crop water requirements with focus upon low water and Inter-culture in coastal area of Thatta**’ under Climate Sensitive Livelihood Modelling (CSLM) project 2023
- **District Sales Agronomist (Seed)** in Dupont Pioneer Pakistan Limited (Multinational USA Based Company) 2011 to 2013 (experience on oil seed crops, millet, maize, silage, fodders, urea treatment, good agricultural practices “GAP”, Integrated Pest Management (IPM), farmers training, farmers meeting, workshop and field days farmer capacity building)
- **Technical Sales Officer (Seed)** in Syngenta Pakistan Limited 2010-2011 (experience on sunflower, maize, vegetable seeds, farmers training, farmers meeting and field days for their capacity building)
- **Business Development Officer (BDO)** in Khushhali Bank Limited (KBL) (Experience in micro financing in Social Collateral Groups (SCG), farmers meeting, cashflow survey, distance learning “DLP” provider for major agricultural crops, small infrastructure provider and alliance work with HANDS (2005-2010).
- **ADDITIONAL ASSIGNMENTS**
  - **Coordinator** Quality Enhancement Cell (**QEC**) for master program at SAU Tando Jam
  - **Focal person** for accreditation regarding Self-Assessment Report (SAR) at SAU Tando Jam
  - **General Secretary** for Entomological Society of Sindh (ESS) FCPT, SAU Tando Jam.
  - **Permanent member** of Board of Studies (**BOS**) at Department of Entomology, SAU Tando Jam

### **TRAINING/WORKSHOP/COURSES/CONFERENCES**

- **Speaker** in “**World Food Day**” by Islamic Relief Pak. 18<sup>th</sup> Oct, 2022@ Mehran Hotel Karachi.
- **Convener** in “The 1<sup>st</sup> IPP Conference by FCPT, SAU Tando Jam, Pak. from 29-30<sup>th</sup> Mar. 2022
- **Moderator** in Consultative Dialogue on “**Livelihood improvement interventions for Expansion of Quality Honey Production in the Country**, (HBRI) at NARC, Islamabad Pak 22<sup>nd</sup> Feb. 2022
- **Honorable Member (Virtual)** A virtual international discussion on “Corona pandemic impact on the local and global animal production” by **Kirkuk Uni., Iraq** on 16<sup>th</sup> May, 2020.

### **Training and participation**

- **International:** Attended in China “a bilateral training course on Agriculture Technology for Pakistan at Hubei Vocational college of Bio-Technology, Wuhan, China” 17<sup>th</sup> Oct to 1<sup>st</sup> Nov, 2019.
- **International:** Presented research poster in 6<sup>th</sup> International UPM Agri. Congress held on 25-27<sup>th</sup> Nov, 2013 Malaysia

### **Online training/Webinars**

- **International** “Online Training Course on Farm Products Circulation Technology for BRI Countries” by Hunan Agricultural Group Co. Ltd. China from September 9-29<sup>th</sup>, 2021
- **International** “Online Training Course on Beekeeping and Honey Processing Technology for BRI Countries” by Hunan Agricultural Group Co. Ltd. China from July 13<sup>th</sup> to Aug. 11<sup>th</sup>, 2021.
- **International** “China Pak Science workshop on “Use of New Technology in Locust Control. Organized by PASTIC Islamabad & BTBU Beijing, China on 20<sup>th</sup> August 2020.
- **International** “Online Training Course on Beekeeping and Honey Processing Technology for Pakistan by Ministry of Commerce (MOFCOM), China From 10<sup>th</sup> May to 23<sup>rd</sup> May 2023

### **ACADEMIC AWARDS, DISTINCTIONS & HONORS**

- **HEC Supervisor** (Higher Education Commission, Islamabad, Pakistan approved supervisor) for M.Phil. & PhD program in agriculture discipline 2021
- **Award of “GOT” certificate** (Graduate on Time) for PhD from School of Graduates Studies (SGS), Univeristi Putra Malaysia in 2016

- **Award of scholarship** for pursuing PhD from Sindh Agriculture University, Tando Jam in association with Higher Education Commission of Pakistan (**HEC**) under Faculty Development Program in 2012
- **Brass Medalist** for securing 3<sup>rd</sup> position in B.Sc. (Agri.) Hons. Faculty of Crop Protection in 2003
- **Successful in Graduate Assessment Test** (GAT general in Agriculture and Veterinary Sciences) conducted by National Testing Service (NTS) in 2012 for qualifying HEC foreign scholarship.
- **Expert for Project Evaluation** in Agricultural Linkage Program (ALP) 10<sup>th</sup> batch National Resource Department (NRD), Islamabad, Pakistan.
- **Expert for Project Evaluation** in Pakistan Science Foundation (PSF) Islamabad, Pakistan.
- **PhD External Evaluator** at the Department of Zoology, University of Sindh Jamshoro, Pakistan
- **Master External Evaluator** at the Department of Zoology, Shah Abdul Latif University (SALU) Khairpur, Sindh, Pakistan
- **Reviewer expert** (four National and four International) for research journals

#### **RESEARCH PROJECTS WINNER AS PRINCIPAL INVESTIGATOR (P.I)**

- A research project under Small Research Grant ORIC, Sindh Agriculture University Tando Jam (**Awarded for 0.5 million PKR, 2021**)
- A research project under Sindh Research Support Program, Sindh Higher Education Commission, Pakistan (**Awarded for 1.9 million PKR, 2023**)
- A research project Agricultural Linkage Program (ALP), Pakistan Agriculture Research Council (PARC) Islamabad, Pakistan (**Shortlisted for 10 million PKR, 2023**)

#### **PATENT FILES REGISTERED (Intellectual Property of Malaysia IPoM)**

- **A system and method for controlling the insect population (2016)**. Putra Science Park Pejabat Timbalan Naib Canselor, R & I UPM Malaysia Patent File No. UPM/100-45/2(A). PI 2016702882.
- **Mating disruption method for controlling BPH population through vibrational signals (2016)**. Trade Secrete File No. UPM/100-45/2(A). Trade secrete (Patent) TS2016.

#### **REVIEWER FOR NATIONAL AND INTERNATIONAL JOURNALS**

- International Journal of Tropical Insect Science (England)
- Journal of Tropical Agriculture Science (Malaysia)
- Basrah Journal of Agriculture Science (Iraq)
- Abasyn Journal of Life Sciences (Pakistan)
- Asian Journal of Agriculture Science (Pakistan)
- Pakistan Journal of Scientific Industrial Research (Pakistan)
- Pakistan Agricultural Research Council (PARC) Islamabad, Pakistan
- Journal of Agricultural Science (Iran)

#### **PHD. RESEARCH SUPERVISOR AND SUBJECTS**

- Presently supervising three PhD students, two on honeybee research and one on IPM of Guava mealybug
- Have supervised more than 29 post graduate students for awarding of master's degree program.
- Teaching Subjects (Insect Behavior (ENT -509) Third year undergraduate, Biological Control (ENT-602) Final year undergraduate, Insect Pollinators and Plant Protection (ENT-607) Final year undergraduate, Final year internship (Undergraduates), Advance Insect Behavior (712) PhD Class Applied Entomology (ENT-402) Second year undergraduate.

#### **Organized Events, training, seminars, and workshops**

- Seminar cum workshop on Bee keeping and its production 2019.
- Two days "1<sup>st</sup> workshop on locust management strategies and its Locust behavior" 2020.
- A fundamental training program on Silkworm rearing for farmers and students 2022.
- The Insect Painting and Collection Box competition 2021, 2022 & 2023

#### **COMPUTER SKILLS**

- MS office (complete Package), SAS (Statistics software), Statistic software (8.1), JPMC statistical software, Polo Plus software, Pulse Lab. Shop, Operational Model Analysis software (OMA) and Cool Edit Pro

## **PUBLICATIONS**

### **Web of Science and Scopus coverage**

1. Soomro, D. M., **Ahmed, A. M.**, Khoso, F. N., Kubar, M. I., Ali, A., & Abbasi, F. Efficacy of *Psidium guajava* (L.) leaves extract against *Spodoptera frugiperda* JE Smith (Lepidoptera: Noctuidae) Larvae.
2. Dahri, J. M., Hassan, M. A., Dahri, Q. D., Khatri, K., **Ahmed, A. M.**, & Dahri, A. (2024). *Apertochrysa smitzi* (Navás, 1914) (Neuroptera: Chrysopidae), a novel chrysopid biocontrol agent for Pakistan. *J. Entomol. Soc. Iran*, 44(2), 171-179.
3. M. A. Lashari, **Agha M. Ahmed**, Dalal M. Aljedani, FN Khoso, Rashid M, M.K Rafique, Hamed A. Ghramh, W. Akram, Saboor, A, Sabir H., and Khalid A.K.(2023) Grafted Larval Age as a Factor Affecting Honeybee (*Apis mellifera*) Queen Cell Acceptance and Morphometric Characteristics. **Pakistan Journal of Zoology**; 1-9.
4. **Ahmed, A. M.**, Khatri, I., Halepoto, I. A., & Khoso, M. N. (2023). Enhancing Efficiency of Solar Heater Box with Linear Actuator for Maximizing Solarization. *Proceedings of the Pakistan Academy of Sciences: A. Physical and Computational Sciences*, 60(4), 45-54.
5. **Agha M. Ahmed**, Ali Zachi Abdul Qadeer Alhilifi, Fahad Nazir Khoso, Muhammad Ibrahim Kubar, Tehniyat Naz Shah and Touseef Ahmed (2023). Development of Protein Based Artificial Diet for Mass Rearing of *Spodoptera frugiperda* J.E. Smith (Lepidoptera: Noctuidae). *Pakistan Journal of Agricultural Research*, 36(4): 350-359.
6. Imran A. Rajput, Agha M. Ahmed, Khalid A. Khan, · Myron P. Zalucki, Ghulam H. Abro, · Michael J. Furlong, Hamed A. Ghramh. (2023). Multitrophic interactions between *coccinellids* and their parasitoids in natural and managed plant systems: host plant and aphid prey species matter. **International Journal of Tropical Insect Science**.
7. M.A Lashari, H. A. Ghramh, **A. M. Ahmed**, R. Mahmood, M. K. Rafique, S. Ahmad, B. M. AL-Shehri, M. E. A. Mohammed, K. A. Khan (2022). Aptness of diverse queen cup materials for larval graft acceptance and queen bee emergence in managed honeybee (*Apis mellifera*) colonies. **Journal of King Saud University Science** 34, 102043
8. K.A. Khan, M.K. Rafique, M.A. Lashari, A. Iqbal, R. Mahmood, **A.M. Ahmed**, F.N. Khoso, S. Ahmad, B.M. AL-Shehri, M.E.A. Mohammed, H.A. Ghramh (2022). Instrumental insemination: A non-traditional technique to produce superior quality honeybee (*Apis mellifera*) queens. **Journal of King Saud University Science** xx 102077
9. Qurban, A., Hongxia Z., Muhammad J.R., Mohsin, A., Amjad, H., Muhammad, Hamzah S., Yasser, N., Muhammad, A. S., **Agha, M.A.**, Kashif, A.K., Shafaqat, A., Kamal, U., Hakim M.K., Lei, Z. (2022). Advances, limitations, and prospects of biosensing technology for detecting phytopathogenic bacteria. **Chemosphere**.
10. Qurban Ali & Sunny Ahmar & Muhammad Aamir Sohail & Muhammad Kamran & Mohsin Ali & Muhammad Hamzah Saleem & Muhammad Rizwan & **Agha Mushtaque Ahmed** & Freddy Mora-Poblete & Antônio Teixeira do Amaral Júnior & Mustansar Mubeen & Shafaqat Ali. (2021). Research advances and applications of biosensing technology for the diagnosis of pathogens in sustainable agriculture. **Environmental Science and Pollution Research**
11. B. Nizamani, **M.A. Agha**, Q. Ali, A. Hussain, H. Manghwar, M. Kamran, A. A. Keerio, Z. A. Solangi, M. A. Lashari, D. M. Soomro (2020). Influence of indigenous plant materials on reproductive performance of *Callosobruchus chinensis* (L.) (Coleoptera: Bruchidae) on chickpea. **International Journal of Tropical Insect Science**.
12. **M.A Agha**, Ali Zachi, F. N. Khoso, Shahjhan R, Din Muhammad S., M. A. Lashari (2021). Age effects on reproductive Behaviour in the Brown Planthopper *Nilaparvata lugens* Stål (Homoptera: Delphacidae). **Pakistan Journal of Zoology**.
13. Lachhman, F. N. Khoso, Gilal A. A, **M.A., Agha**, Hajano, J, Khatri, I, Nizamani, I. A., Lodhi. A. M., Anser A., Taimur u rehman, Munir A. (2018). Improving Chemo Taxis Effects of Methyl Eugenol Bait Against Two Fruit Fly Species in Jujube Orchards Located in Tandojam, Pakistan. **JOURNAL OF THE KANSAS ENTOMOLOGICAL SOCIETY**. 91(3), 230-238.

14. **M. A. Agha**, Rita Muhamad, Dzolkhifli Omar, I.V. Grozescu, Dayang Laila Majid, Manjeri Gnanasegaram (2016). Mating Behaviour of Brown Planthopper *Nilaparvata lugens* Stål (Homoptera: Delphacidae) Under Certain Biological and Environmental Factors. *Pakistan Journal of Zoology*. 48(1):11-23.
15. Zeeshan B., **M.A Agha**, Imran, K., Rattar, Q., Shahjahan R., Mehvish, T., Harrison, Y. (2020). First report of morphometric identification of *Spodoptera frugiperda* J.E Smith (Lepidoptera: Noctuidae) an invasive pest of maize in Southern Sindh, Pakistan. *Asian Journal of Agriculture & Biology* Online First. DOI: 10.35495/ajab.2020.03.169
16. Rashid Latif Ujjan, **M.A. Agha**, Ali Zachi Abdulqader Alhilfi, Fahad Nazir Khoso, Ali Murad Rahoo, Imran Ali Rajput and Din Muhammad Soomro (2019). Performance of pheromone traps at different heights for mass trapping of *Helicoverpa armigera* (Noctuidae: Lepidoptera) in chickpea field. *Asian Journal of Agriculture & Biology* 7(4):610-616.
17. Usman, M., Ijaz, M., Aziz, M., Hassan, M., **Ahmed, A. M.**, Soomro, D. M., & Ali, S. (2022). Locust Attack: Managing and Control Strategies by the Government of Pakistan: A review on Locust Attack in Pakistan. *Proceedings of the Pakistan Academy of Sciences: Part B*, 59(2), 25-33.
18. A. W. Magsi, **M.A Agha**, Ali Zachi, K. H. Dhiloo, F. N. Khoso et al. (2022). Dual Effects of Plant Materials against Pulse Beetle *Callosobruchus maculatus* F. (Chrysomelidae: Coleoptera) on Chickpea. *Pakistan Journal of Scientific and Industrial Research* (Ser. B: Biol. Sci). 65B (1) 11-17.
19. Sajad, A.S, Jamal-U-Ddin, H., Rehana N. S., Sohail A. O., Khadim H., W., **Agha M. A.**, Fahad Nazir Khoso, Aftab Raza Jarwar and Suman Tarique Qazi (2022). Screening of Tomato Varieties for Resistance to Tomato Leaf Curl Viral Disease under Field Conditions. *Pakistan Journal of Agricultural Research*, 35(1): 70-77.
20. Chand, K., Khoso, F. N., Gilal, A. A., Lodhi, **A. M.**, **Ahmed** et al. (2022). Characterization of ground water for suitability as insecticide solvent for insect pest management in Lower Sindh, Pakistan. *Sarhad Journal of Agriculture*, 38(1),
21. Ali Z. A. Alhilfi, Wael A. Swadi and Agha M. Ahmed (2021). Preparation and Characterization of Oil Nanoemulsion Formulations of *Beauveria bassiana* (Bals.-Criv.). *Basrah Journal of Agricultural Sciences*. vol- 34 .
22. **M. A. Agha**, Ali Zaichi, F.N Khoso, Q. Ali, S.A Otho, D.M. Soomro and Z. A. Soomro. (2020). Efficacy of certain plant oils on *Callosobruchus chinensis* (L.) (Coleoptera: Bruchidae) in chickpea seeds. *Sarhad Journal of Agriculture*.
23. A. K. Pathan , I. A. Rajput , A. M. Ahmed , M. W. Kalroo M. M Shahid, A. Q. Baloch and F. A. Rajput (2019). Documentation of Braconid Parasitoids of Pink Bollworm *Pectinophora gossypiella* on Cotton Crop at Southern Sindh. *Pakistan Journal of Agricultural Research*. Vol-32.
24. A. H. Hullio, A. G. Lanjar, A. R. Dhuyo, I. Khattri and A. M Ahmed (2018). Thriving Situation of White Backed Planthopper (*Sogatella furcifera* H.) in Sindh Province Pakistan. *Pakistan Journal of Agriculture Research*. Vol-31

### **HEC Recognized Journal (HJRS)**

25. Khoso, M. N., Halepoto, I. A., & **Agha, M. A.** (2024). Impact Analysis of Solar Heater Box with Linear Actuator on Characteristics of Chickpea Seeds. *Journal of Applied Research in Plant Sciences*, 5(01), 01-11.
26. **A. M. Ahmed**, A. Z. A. Qadeer, J.D. Hajano, A. Alyousuf, S. Rajput, et al. (2020). Bio efficacy of Eruca sativa oil against *C. chinensis* on chickpea. *Abbasyn Journal of Life Sciences* 3 (2): 193-199
23. G.N. Sehto, I. A. Rajput, A. M. Ahmed, M. M. Kolachi, A. K. Pathan, M. S. Depar, R. A. K. Laghari and B. Mal. Monitoring cotton bollworms through synthetic sex pheromone traps (2020). *Pure and Applied Biology*. 9(3): 2007-2013.
24. B. H. Jakhrejo, **A. M. Ahmed**, B. A. Bughio, A. M. Rahoo, S. Rajput, A. Zachi A.Q. Alhilfi, et al. (2020). Compatibility of Novel Chemical Compounds against *H. armigera* Hubner in Field and Laboratory Condition. *Sindh University Research Journal*. (Sci. Ser.) 52 (1): 41- 48
25. Fahad Nazir Khoso, Naeem UL Haq Shah, **Agha Mushtaque Ahmed**, Bhai Khan Solangi, Arfan Ahmed Gilal, Muhammad Ishaque Mastoi and Ghulam Mujtaba Khushk (2017).

- Screening of Different Varieties of Okra (*Abelmoschus esculentus* (L.) against Sucking Insect Pests. *Journal of Basic & Applied Sciences*. 13: 161-165.
26. Imran Ali Rajput, Tajwer Sultana Syed, Arfan Ahmed Gilal, **Agha Mushtaque Ahmed**, Fahad Nazir Khoso, Ghulam Hussain Abro and Maqsood Anwar Rustamani (2017). Effect of different synthetic pesticides against Pink Bollworm *Pectinophora gossypiella* (Saund.) On bt. and non-bt. cotton crop. *Journal of Basic & Applied Sciences*. 13: 454-458.
  27. H. Darya, **Agha M. Ahmed**, Fahad N, Arfan A. Gilal, Khalid H. Dhilloo, Bahi K. Solangi, Ghulam M. Khusk, Piar A. Shar (2017). New records of Genus *Strongylium* from Malaysia (Coleoptera: Tenebrionidae). *Journal of Biodiversity and Environmental Science*. 11(2):16-28
  28. Bhai Khan Solangi, Fahad Nazir Khoso, Mohammad Azhar Shafique, **Agha Mushtaque Ahmed**, Arfan Ahmed Gilal, Mir Muzaffar Ali Talpur and Khalid Hussain Dhilloo (2017). Host plant preference of sucking pest complex to different tomato genotypes. *Journal of Entomology and Zoology Studies*. 5(1): 293-297.
  29. Darya H, Nur Azura A, Lau WH, Izfa RH, Ali Maa and **Agha M Ahmed** (2016). Distribution of darkling beetles (Tenebrionidae) in Malaysia. *Journal of Entomology and Zoology Studies*. 4(5): 1113-1117.
  30. **Agha Mushtaque Ahmed**, Rita Muhamad, Dzolkhifli Omar, Dayang Laila Majid, Manjeri Gnanasegaram (2016). Influence of male age on producing rival calls in brown planthopper *Nilaparvata lugens* Stål (Homoptera: Delphacidae). *Journal of Entomology and Zoology Studies*. 4(3): 163-166.
  31. Tehniyat N Shah, **Agha M Ahmed**, N Memon (2015). Population dynamics of cotton mealybug, *Phenacoccus solepnosis* Tinsely in three talukas of district Sanghar (Sindh). *Journal of Entomology and Zoology Studies*. 3(5): 162-167.
  32. Tehniyat N Shah, **Agha M Ahmed**, N Memon (2015). Effects of variable temperatures on biological parameters of cotton mealybug under laboratory condition. *Science International (Lahore)*. 27(5):4263-4270.